Does immigration crowd out foreign direct investment inflows* Tradeoff between contemporaneous FDI-immigration substitution and ethnic network externalities

Akinori Tomoharaa,b,c,*

a University of California, USA
b RIETI, Japan
c Aoyama Gakuin University, Japan

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ABSTRACT

This study examines the dynamic interactions between immigration and inward foreign direct investment (FDI) using bilateral data on these indicators between Japan and each of the 29 countries/economies of origin for both FDI and immigrants into Japan during 1996–2011. Although literature shows a positive FDI–migration relationship, I distinguish between short- and long-term effects of immigration, and show a contemporaneous negative relationship between FDI and immigration. The results show that immigration flows discourage FDI inflows (FDI–migration substitution), although larger immigration stocks induce FDI inflows (ethnic network externalities). Therefore, total effects need to be evaluated considering a tradeoff between contemporaneous substitution and the longer-term complementarity from network effects. While inward FDI promotion and immigration enhancement are often suggested as solutions to resolving shortages in domestic savings and labor, our results have implications for addressing the increasingly daunting policy issue of population aging.

1. Introduction

Population aging has negative economic implications such as reduced domestic savings, a shrinking labor force, and the burden of increasing support for the retired population. Specifically, Japan had the highest population aging rate in the world in 2013. Policies such as inward foreign direct investment (FDI) promotion and immigration enhancement are often suggested as solutions to address these situations. Previous empirical studies have implied favorable interactions between the two factors in that immigration increases outward FDI (Kugler et al., 2007; Javorcik et al., 2011; Simone and Manchin, 2012; Gheasi et al., 2013) and inward FDI (Buch et al., 2006; Foad, 2012). Although a foreign business encounters challenges such as informal business barriers, migrant networks help overcome these and enhance business opportunities via FDI, because these networks reduce transaction costs by providing local market information (i.e., consumers’ preferences) and business practices (i.e., laws and regulations), and developing trust through contacts (i.e., matching buyers and sellers).

This study examines dynamic FDI–immigration interactions, where contemporaneous FDI–immigration substitution occurs, together with ethnic network effects. Our analysis differs significantly from those in previous studies. One unique feature is the distinction between temporal and long-run effects. Most previous studies show positive relationships between immigration and FDI in the long-run; namely, areas with more immigrant stocks attract greater inward FDI stocks from their country of origin (or provide more outward FDI stocks to their country of origin).1 As such, our analysis focuses on the relationship between FDI inflows and immigration flows, given immigrant stocks. This approach allows us to distinguish two different outcomes: (1) whether larger foreign communities in a host country attract more FDI (i.e., ethnic network effects); and (2) whether FDI inflows are deterred when a country simultaneously welcomes immigrants (i.e., a tradeoff between FDI and immigration). Our analysis reveals the importance of this distinction, as the FDI–migration relationship

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☆ Correspondence address. Current address: Department of International Economics, Aoyama Gakuin University, Building No. 8 421, 4-4-25 Shibuya, Shibuya-ku, Tokyo 150-8366, Japan.

E-mail address: jujodai@yahoo.com.

1 Table 1 summarizes the characteristics and results of previous studies. This information helps us to understand the contribution of the current paper.

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varies depending on whether we are discussing long-run effects or temporal relationships. Another feature of this study is the characteristics of immigrants used. We examine the effect of immigration from a broader perspective, including temporary immigration, rather than focusing on permanent residents. Temporary immigrants may create network externalities, just as permanent residents do, and previous studies on the FDI–migration relationships have neglected this aspect. Furthermore, we account for the dynamic relationship between FDI and immigration by using the system generalized method of moments (GMM). To the best of our knowledge, no study has examined the dynamic interactions between FDI and immigration to date.

Our analysis uses bilateral data on FDI and immigration between Japan and each of the 29 originating countries/economies during 1996–2011. We match Japan, as the host country, with an origin country that generates FDI and immigration flows. The analysis offers a new insight into the contemporaneous FDI–immigration relationship: the enhancement of immigration flows discourages the promotion of FDI inflows. Simultaneously, we confirm ethnic network externalities, similar to those demonstrated in previous studies. That is, larger immigrant stocks in a country or area positively affect FDI inflows from the same country of origin. Therefore, the total effects result from a tradeoff between contemporaneous FDI–immigration substitution and their complementarity from ethnic network effects.

Moreover, our analysis reveals that predicted and actual policy impacts could be simplified or incorrect, unless we distinguish ethnic network effects on inward FDI from the contemporaneous effects of immigration on inward FDI. While previous studies advocate positive FDI–immigration relationships, their results are not sustainable. Our estimates indicate that a decrease in FDI inflows due to FDI–immigration substitution is larger than an increase in FDI inflows resulting from network effects, unless network effects accumulate for several years. Policy implications differ when we direct our focus from the long-term impact to contemporaneous effects. If voters are myopic and do not wait until policy effects manifest in the long term, evaluating short-term impacts has important practical implications, specifically in the era of migration crises.

The paper proceeds as follows. Section 2 presents a summary of the data and the empirical model used for the analysis. Results of the analysis are presented in Section 3. Section 4 concludes the paper and suggests future lines of inquiry for research.

2. Methodology and data

Davis and Weinstein (2002, 2005) propose the theory that explains the observation that both labor and capital enter one country. In their Ricardian approach, technological superiority accounts for inflows of both factors into one country, because higher productivity provides higher returns for all factors. However, they treat inflow of labor and capital as a composite (or single) factor. Therefore, their approach is not necessarily sufficient to capture the characteristics of the interactions among simultaneous factor inflows, which we consider. For this analysis, we refer to recent empirical studies on FDI–immigration relationships (i.e., ethnic network effects), and set up an empirical model by introducing temporal FDI–immigration interactions (Table 1).

\[ FDI_{it} = \alpha + \beta_1 FDI_{it-1} + \beta_2 \text{ForEntry}_{it} + \beta_3 e_{it} + X_{it}, \]

where \( e_{it} = \delta_i + \mu_{it} \) (1)

Therein, \( FDI_{it} \) denotes net inflow of FDI from country \( i \) to Japan at time \( t \). \( \text{ForEntry}_{it} \) denotes the net inflow of immigrants, \( e_{it} \) denotes the stock of immigrants, \( X_{it} \) is a set of control variables, and \( \epsilon_{it} \) is an error term that comprises \( \delta_i \), an unobservable time-invariant country-pair specific fixed effect, and \( \mu_{it} \), idiosyncratic shocks.

The analysis uses net inflows, which account for the withdrawal of investment (or the exit of immigrants). Although a host country receives sizeable amounts of FDI (or immigrants) in the gross term, inflows do not compensate for the decreasing savings and labor force decrease if equivalent amounts of FDI (or many immigrants) exit the host country within a given period.

We consider the number of foreign entrants with a long-term length of stay as the net inflow of immigrants. Definitions of migrants vary among different datasets and no common definition exists; migrants are defined according to dimensions such as country of birth, nationality, and length of stay (Anderson and Blinder, 2013). The Ministry of Justice, Japan, defines those who enter Japan and stay for more than 90 days as immigrants. Using the data, our analysis incorporates not only a one-way but also reverse movement of migrants, i.e., the possibility that some immigrants either return to their country of origin or move to other countries after staying in Japan for a certain period (see data descriptions in Table 2). While such reverse movements are common, past studies do not incorporate the possibility. Our approach provides practically meaningful implications while discussing the impact of immigration because countries such as Japan employ foreign labor, but do not necessarily expect them to stay permanently.

The analysis uses two different datasets, Japan’s Annual Report of Statistics on Legal Migrants (foreign entrants’ data used for an immigrant flow variable) and Statistics on the Foreigners Registered in Japan (foreign registration data used for an immigrant stock variable). During the course of analysis, we needed to devise network effects related to Chinese and Koreans because the two datasets differ in the treatment of Chinese and Korean immigrants. While the data for foreign entrants provide area-specific immigrant information, foreign registration data do not distinguish among mainland Chinese, Taiwanese, and Hong Kong citizens or among citizens of North and South Korea, but simply classify them as Chinese or Korean. To fill the gap, the number of foreign entrants registered as Chinese is used as the stock of immigrants from mainland China, Taiwan, and Hong Kong. China’s network externalities are assumed to apply to the three countries/areas because a unified form of China, Taiwan and Hong Kong share some similarities in culture. The total stock of Chinese in Japan helps in attracting FDI from mainland China, Taiwan, and Hong Kong to Japan.

Similarly, we use the number of foreign entrants registered as Korean for the category of South Korea. This treatment requires a less strict assumption compared to the case of Chinese. According to Japan’s Annual Report of Statistics on Legal Migrants, most recent North Korean entrants are “special permanent residents” with re-entry permits, and the number of North Korean entrants to Japan is negligible compared to that of the South Korean entrants. The category of “special permanent residents” was designed for Koreans, Taiwanese, and their descendants who had been living in Japan before September 2, 1945, when Japan formally signed the Instrument of Surrender. Considering that North Korea was only established in 1948, the distinction of either North or South is not crucial for entrants registered as Korean who came to Japan before World War II. Thus, our treatment appears to be reasonable.

The analysis controls for several other standard factors by referring to extant FDI–immigration literature and studies on FDI determinants by Blonigen and Piger (2011) and Eicher et al. (2012). Real gross domestic product (GDP) (in constant 2005 million USD) is a proxy for the market size of a host country. We assume that a larger market will attract more FDI. The variable is used frequently to study FDI inflows in studies such as Trevino et al. (2002) and Dhakal et al. (2007). FDI resistance is measured by geographical distance (in kilometers) between Japan and a country of origin for FDI and immigrants. We also assume that further distances may discourage FDI due to higher costs. However, the total effect of distance is uncertain if we consider different mechanisms, such as the proximity-concentration hypothesis, under which longer distances operate as a proxy for factors thus encouraging FDI. The analysis also controls for institutional factors, such as corporate tax rates and Economic Partnership Agreement (EPA), and quality factors, such as corruption, as an evaluation of
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